

The new list of announcements of Mr. John Murray includes the following:—"Travels in Egypt and Mesopotamia in Search of Antiquities, 1886-1913," Dr. E. A. Wallis Budge, 2 vols., illustrated; "Conifers and their Characteristics," C. C. Rogers; three additions to the Imperial Institute Monographs on Mineral Resources, viz. "Manganese Ores," A. H. Curtis; "Tin Ores," G. M. Davies, and "Tungsten Ores," R. H. Rastall and W. H. Wilcockson; "Industrial Problems and Disputes," Lord Askwith; and new editions of "Hydrographical Surveying: A Description of the Means and Methods Employed in Constructing Marine Charts," the late Rear-Admiral Sir W. J. L. Wharton, revised and brought up to date by Admiral Sir Mostyn Field; "Microscopy: The Construction, Theory, and Use of the Microscope," E. J. Spitta; "Principles and Methods of Taxation," Dr. G. Armitage-Smith; and "Economic Statesmanship: The Great Industrial and Financial Problems Arising from the War," J. Ellis Barker.

OUR ASTRONOMICAL COLUMN.

THE AUGUST PERSEIDS.—Some of the earlier members of this rich annual shower were visible on July 30 and August 2, and, from the numbers seen, it is probable that the return this year will be an unusually abundant one. At Bristol on August 2, during a watch of the heavens extending over $2\frac{3}{4}$ hours, forty-one meteors were seen, of which eighteen belonged to the special display of Perseids. Their radiant point was at $38^{\circ}+55^{\circ}$, and it was not a sharply defined centre, but an area extending over about 7° in diameter. This marked diffusion is rather greater than what is usually observed, for the shower radiant is often rather small and definite. The maximum of the shower may be expected on August 11 and 12, but it is unfortunate that on these dates the moon will be nearly at the full, and will hide a considerable number of the smaller meteors. The Perseids, however, are a shower yielding a large proportion of brilliant meteors, so that even in strong moonlight the event is likely to present a conspicuous aspect.

KOPFF'S PERIODIC COMET.—The following search ephemeris for comet 1906 IV., period 6.6 years, which was not seen in 1913, is published by M. Ebell.

For Greenwich Midnight.

	R.A.	S. Decl.	Mag.
	h. m.	°	
July 20	19 15.2	11 34.6	10.2
August 21	19 17.9	9 3.8	10.7
September 22 ...	19 49.2	8 30.7	11.5
October 24	20 38.4	7 23.9	12.3

An observation by Dr. Wolf on July 30 gives R.A. 11 minutes greater than, and declination $1^{\circ} 14' N.$ of, the place shown by this ephemeris.

MIRA CETI.—Observations of this variable star about the time of its maximum in 1918, made by members of the Société Astronomique de France, are given in the Bulletin of that society for July. The dates estimated by the different observers at or between which the maximum may have occurred are as follows, the magnitude being added in brackets:—October 5 (3.3), September 23 (3.0), September 2–October 11 (about 3.9), September 21 (3.3), and September 25 (3.2); whilst another observer also records a double maximum on September 10 (3.65) and October 5 (3.85). Noting that the observer whose estimate is October 5 made no observation between September 11 and 26, it may be reasonably inferred that Mira Ceti was at maximum about September 23, 1918, when it was at least as bright as magnitude 3.4. According to similar

observations made in the previous year, the maximum occurred about October 5, 1917. The length of the mean period generally adopted for the variation of this star is 331 days, which, applied to the date September 23, shows that maximum should happen this year about August 20. M. Flammarion's *Annuaire* names August 23 as the date. Mira has been comparatively faint at recent maxima, not having been brighter than third magnitude. It was practically of the second magnitude in 1906.

ROYAL OBSERVATORY, EDINBURGH.—Prof. Sampson's report for the year ending March 31 last has again to record a restriction of work owing to the absence of the two senior assistants on important Admiralty service. In these circumstances the attention of the Astronomer Royal for Scotland appears to have been given largely to the time service and to the study of improvement in clocks. A 24-in. mirror is being made by Mr. George Calver to take the place of one of the same size on an existing telescope, the figure of which is considered imperfect, and with the instrument thus improved it is proposed to determine stellar magnitudes by the photo-electric method, the process of which is being studied.

PATENTS IN RELATION TO INDUSTRY.

AN important conference on "Patents in Relation to Industry" was held, under the presidency of Lord Moulton, in connection with the British Scientific Products Exhibition, organised by the British Science Guild at the Central Hall, Westminster, on July 31, when some of the main features of the Patents and Designs Bill now before the House of Commons came under review. Sir Robert Hadfield, who opened the discussion, mentioned that those who had been trying to get changes introduced into the patent law were, at this juncture, being strongly supported by the Federation of British Industries and the British Commonwealth Union. These two important bodies intended, he said, to press for (a) an extension of the present term of fourteen years; (b) the introduction of the American file-wrapper system into this country; and (c) the appointment of a judge possessing special scientific knowledge as president of the court that had to deal with patent matters. Messrs. W. W. Reid, Hunter Gray, K.C., D. Leechman, and James Swinburne, and Sir G. Croydon Marks also took part in the discussion.

The remarks of the speakers made it evident that there exists a widespread feeling that the patent law of this country is inadequate for the present needs of industry, and, moreover, that it fails to afford the inventor suitable encouragement. Although the modifications of the law proposed in the 1919 Bill will, it is agreed, introduce desirable changes, a feeling appears to exist that in this Bill are repeated many of the weaknesses of the Bill withdrawn last year. Very general agreement exists on the point that renewal fees should be considerably reduced; such reduction, it was pointed out, can be effected at once without any fresh legislation, as the Treasury and the Board of Trade already possess the necessary powers to afford the inventor the relief required by him in this matter.

Lord Moulton, in bringing the discussion to a close, stated that, however excellent may be the case for obtaining a modification of the patent law, no progress will be made in the matter unless and until it is realised that the first thing essential to be done is for those who desire reforms to convince the Press and the people of the country that it is from the point of view of the public interest that questions affecting

patents are looked at and taken up. It is apparent to everyone, he said, that few inventions of the present day are really meritorious; he, therefore, regards the theory of renewal fees as a very excellent means for getting rid of patents that are not valuable. Such patents only put a restraint on invention, since improvements are choked so long as a master-patent remains in force. Lord Moulton expressed his approval of the American file-wrapper system. He pointed out that a patent specification must be drawn up in the utmost good faith in order that the public may have the full advantage of it when the patent in due course lapses; such is not always the case at present, since where the real inventor is a foreign resident abroad complete disclosure of the invention rarely takes place. The 1919 Bill will, in his opinion, constitute a new charter for the inventor. The public is determined, he said, that patents should help the trade of the country, and not strangle it as they have done during the past thirty or forty years.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE.

THE twenty-fifth annual report of the governing body of the Lister Institute recently issued gives a useful summary of the activities of the Institute during 1918.

Miss Muriel Robertson has continued her researches upon the anaerobic bacteria which infect wounds, with particular reference to the *vibrio septique*, the organism of malignant oedema. The reactions of this organism have been worked out, a toxin has been prepared from it, and with the toxin an antitoxic serum has been prepared and the serum issued to the Army.

Much work has been carried out for the War Office Committee for the Study of Tetanus, presided over by the chairman of the governing body of the institute, Sir David Bruce. Sir David Bruce has continued his analysis of tetanus cases occurring in home military hospitals. During 1918 292 cases of tetanus occurred among 380,000 wounded men, an incidence of 8 cases per 10,000 wounded. During the first three months of the war the incidence was 74 cases per 10,000 wounded. This drop has been chiefly due to the prophylactic use of anti-tetanic serum. The rate of mortality has similarly fallen—from 58 per cent. to 25 per cent.

Mr. Bacot, of the entomological department, has carried out numerous experimental tests of processes and methods aiming at ridding the troops of lice as a result of which a method for the destruction of lice by a moderate degree of dry heat has been devised and has been practically applied in the field on a large scale. Large numbers of lice have also been reared for use in other investigations concerned with the transmission of disease by these pests, particularly typhus fever and trench fever.

A number of researches concerned with food problems have also been carried out at the institute. Dr. Harden and Dr. Zilva, in conjunction with Dr. Still, have prepared a potent extract from lemon-juice for use in cases of infantile scurvy.

An investigation on the effects of cold storage on the fat-soluble accessory factor of butter is in progress.

An experimental investigation on scurvy, commenced in the autumn of 1916 by Dr. H. Chick, has already yielded valuable results. Thus it has been found that West Indian lime-juice is much inferior to lemon-juice in the prevention of scurvy. Yet in the British Navy and mercantile marine and in Arctic exploration last century lime-juice was vaunted as a preventive of scurvy. From an historical inquiry con-

ducted by Mrs. Henderson Smith the important and interesting fact emerges that the "lime"-juice which was employed in these circumstances was actually made from lemons!

When during 1917 and 1918 there was a scarcity of oranges and lemons, experiments were instituted in order to ascertain if a cheap substitute existed containing the anti-scorbutic properties of these fruits, and swede-juice was ascertained to be most effective and not much inferior to orange-juice.

This brief summary surveys only a portion of the activities of the institute, but suffices to indicate the valuable work which has been carried out. The governing body proposes that the institute shall in the future be termed the Lister Institute for Medical Research, and suggests that a research hospital in connection with the institute would add greatly to its usefulness. Steps are being taken to give effect to these proposals.

COLLOIDS AND CHEMICAL INDUSTRY.¹

ANYONE familiar, even in the least degree, with the general nature of chemical industry, and the applications of chemical science to other sciences, cannot but be impressed with the importance which colloid chemistry has attained within recent years in these two directions. In order that the significance of this branch of chemistry, hitherto very largely neglected, particularly in its scientific aspect, may be more fully appreciated and recognised, a committee of the British Association was formed in 1917 to consider the problem.

Last year (NATURE, March 28, 1918) attention was directed to the publication of the first report of this committee. The object which the committee has in view is to prepare in the form of sectional reports a summary of information respecting the present position of colloid chemistry and its various applications to other sciences, and especially to chemical industry. Each section is written by an authority on the subject treated. The first report dealt with the following technical subjects:—Tanning, dyeing, fermentation industries, rubber, starch, gums, albumin, gelatin, and gluten, cements, nitrocellulose explosives, and celluloid.

The committee has now issued its second report, which appears under the *aegis* of the Department of Scientific and Industrial Research. It may be obtained from H.M. Stationery Office or through any bookseller. The general arrangement adopted in the first report is adhered to in the present one. This consists of (1) classification according to the scientific colloid subject, and (2) classification according to the industrial process and general application of colloid science to other sciences. Under the first head the subjects treated are:—(i) Peptisation and precipitation (W. D. Bancroft); (ii) emulsions (E. Hatschek); (iii) the Liesegang phenomenon (E. Hatschek); and (iv) electrical endosmose (T. R. Briggs). Under the second head are:—(i) Technical applications of electrical endosmose (T. R. Briggs); (ii) colloid chemistry in the textile industries (W. Harrison); (iii) colloids in agriculture (E. J. Russell); (iv) sewage purification (E. Arden); (v) dairy chemistry (W. Clayton); (vi) colloid chemistry in physiology (W. M. Bayliss); and (vii) administration of colloids in disease (A. B. Searle).

It is only right to point out that the compilation of these sections represents a gratuitous contribution on the part of the compilers for the general benefit of

¹ Second Report of the British Association Committee on Colloid Chemistry and its General and Industrial Applications (1918). (Published for the Department of Scientific and Industrial Research by H.M. Stationery Office, 1919.) Price 1s. 6d. net.